

Appl. No. 10/676,427

Docket No. 1232-5168

Reply to Office Action dated December 16, 2005

Amendments to the Claims:

Claims 1-30 are pending, with claims 3, 15, 16 and 18-30 having been withdrawn from consideration. Please amend claims 1, 2, 4, 5, 8-14 and 17 and add new claim 31 as shown below. This listing of claims will replace all prior listings of claims in the application.

Listing Of Claims:

1. (**currently amended**): A print producing method of producing a print ~~with varying a degree of gloss of~~ that is made of a printing medium on which ink is applied, said method comprising the steps of:

applying ink ~~including a color material~~ to the printing medium by means of ink applying means while scanning the ink applying means relatively to the printing medium; and

applying ~~a predetermined liquid droplet different from the ink~~ a liquid for changing a degree of gloss by means of liquid applying means to an area on the printing medium to which the ink has been applied, while scanning the liquid applying means relatively to the printing medium; and

setting one liquid applying condition out of different liquid applying conditions for making different degrees of gloss respectively,

~~wherein said application of the predetermined liquid droplet causes the degree of gloss to be varied among a plurality of levels~~ the different liquid applying conditions are different in at least one of three factors of an applying time difference between the liquid applied to adjacent locations in the area of the printing medium, a number of times of scan for applying the liquid, and a mask pattern used for applying the liquid.

Appl. No. 10/676,427

Docket No. 1232-5168

Reply to Office Action dated December 16, 2005

2. **(currently amended)** A method as ~~claimed in claim 1~~, further comprising the step of forming a layer of the ~~predetermined~~ liquid droplet on the surface of the printing medium by employing said ~~predetermined~~ liquid droplet applying step, said layer forming step controlling a level of integrating a plurality of the ~~predetermined~~ liquid droplets, which are applied for forming the layer, to vary the degree of gloss.

3. **(withdrawn)** A print producing method of producing a print including parts which are different in a degree of gloss to each other, said method comprising the step of:

applying a predetermined liquid droplet reacting with a surface of a printing medium to the surface of said printing medium,

wherein said predetermined liquid droplet applying step applies the predetermined liquid so that a plurality of the parts different in the degree of gloss exist on the surface of the printing medium.

4. **(currently amended)** A method as claimed in claim 1, wherein a haze of the printing medium is also varied among a plurality of levels in connection with forming a layer with the ~~predetermined~~ liquid droplet applied.

5. **(currently amended)** A method as claimed in claim 1, wherein the ~~predetermined~~ liquid droplet contains an aqueous medium and a polymer having the structure formulated by the general formula shown below, and the polymer is insolubilized when the ~~predetermined~~ liquid is applied to ~~the surface of~~ the printing medium so that the ~~predetermined~~ liquid droplet is insolubilized on the surface of the printing medium,

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

formula - COOA

in this formula, "A" denotes alkali metal, amine, or organic amine.

6. **(original)** A method as claimed in claim 1, wherein the surface of the printing medium has a pH contributing to insolubilize the polymer.

7. **(original)** A method as claimed in claim 1, wherein an ink receiving layer of the printing medium contain polyvalent metal ions of such a concentration as insolubilizes the polymer.

8. **(currently amended)** A method as claimed in claim 2, wherein said layer forming step controls application of the plurality of ~~predetermined~~ liquid droplets so that the plurality of ~~predetermined~~ liquid droplets are dividedly applied at intervals, each of which has a time equal to or longer than a predetermined time, to control the level of integrating the plurality of the ~~predetermined~~ liquid droplets.

9. **(currently amended)** A method as claimed in claim 2, wherein said layer forming step varies the number of the ~~droplets~~ liquid applied adjacently to each other within a predetermined time to control the level of integrating the plurality of the ~~predetermined~~ liquid droplets.

10. **(currently amended)** A method as claimed in claim 2, wherein said layer forming step forms a first layer by application of the ~~predetermined~~ liquid droplet to an area of the printing medium to which the layer is to be formed and applies the plurality of ~~predetermined~~ liquid

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

droplets on the first layer to control the level of integrating the plurality of the ~~predetermined~~
liquid droplets.

11. **(currently amended)** A method as claimed in claim 2, wherein said layer forming step forms a first layer by application of the ~~predetermined~~ liquid droplet to all area of the printing medium and applies the plurality of the ~~predetermined~~ liquid droplets on the first layer to control the level of integrating the plurality of the ~~predetermined~~ liquid droplets.

12. **(currently amended)** A method as claimed in claim 2, wherein said layer forming step controls application of the plurality of the ~~predetermined~~ liquid droplets so that the plurality of the ~~predetermined~~ liquid droplets varies in size among a plurality of sizes to control the level of integrating the plurality of the ~~predetermined~~ liquid droplets.

13. **(currently amended)** A method as claimed in claim 8, wherein said layer forming step varies applying rates of respective divided ~~predetermined~~ liquid droplets to control the level of integrating the plurality of the ~~predetermined~~ liquid droplets.

14. **(currently amended)** A method as claimed in claim 1, wherein said ~~predetermined~~ liquid droplet applying step applies the ~~predetermined~~ liquid droplet so that the a plurality of parts different in the degree of gloss are formed on the same printing medium.

15. **(withdrawn)** A print producing method of producing a print including parts which are different in a degree of gloss to each other, said method comprising the step of:

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

applying a predetermined liquid droplet reacting with a surface of a printing medium to said printing medium so that a level of integrating the plurality of the predetermined liquid droplets are differentiated to form the plurality of parts different in the degree of gloss,

wherein the plurality of parts different in the level of integration have different degree of gloss respectively.

16. **(withdrawn)** A print producing method of producing a print including parts which are different in a degree of gloss to each other, said method comprising the step of:

applying ink to a printing medium; and

applying a predetermined liquid droplet to a printing medium so that a condition of the surface of the printing medium are differentiated to form the plurality of parts different in the surface condition,

wherein the plurality of parts different in the surface condition have different degree of gloss respectively.

17. **(currently amended)** A method as claimed in claim 1, said layer forming step is executed by ejecting the ~~predetermined liquid droplet~~ from an ink jet head provided with a plurality of nozzles.

18. **(withdrawn)** A print producing method of producing a print including parts which are different in a degree of gloss to each other, said method comprising the step of:

ejecting ink to a printing medium from an ink jet head while the ink jet head is employed to scan the printing medium; and

Appl. No. 10/676,427

Docket No. 1232-5168

Reply to Office Action dated December 16, 2005

ejecting a predetermined liquid droplet from an ink jet head to a printing medium to which ink has been ejected while the ink jet head is employed to scan the printing medium so that the numbers of times of scan are differentiated to form the plurality of parts,

wherein the plurality of parts different in the number of scan have different degree of gloss respectively.

19. (withdrawn) A print producing method of producing a print with varying a degree of gloss of a printing medium, said method comprising the step of:

ejecting a predetermined liquid droplet reacting with the printing medium to said printing medium from an ink jet head while the ink jet head is employed to scan the printing medium,

wherein the number of times of scan required for ejecting the predetermined liquid droplet is varied to vary the degree of gloss.

20. (withdrawn) A print producing method of producing a print including parts which are different in a degree of gloss to each other, said method comprising the step of:

ejecting ink to a printing medium from an ink jet head while the ink jet head is employed to scan the printing medium; and

ejecting a predetermined liquid droplet from an ink jet head to a printing medium to which ink has been ejected while the ink jet head is employed to scan the printing medium at a plurality of times, wherein respective masks are employed to generate ejection data for the plurality of times of scan and the predetermined liquid droplet is ejected based on the ejection data generated by employing the masks, to form the parts,

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

wherein said predetermined liquid droplet ejecting step employs a plurality of masks different in the size of minimum processing unit and employs the plurality of masks to form a plurality of parts different in a degree of gloss, and
the plurality of parts different in the number of scan have different degree of gloss respectively.

21. (withdrawn) A print producing method of producing a print with varying a degree of gloss of a printing medium, said method comprising the step of:

ejecting a predetermined liquid droplet reacting with the printing medium from an ink jet head to a printing medium while the ink jet head is employed to scan the printing medium at a plurality of times, wherein respective masks are employed to generate ejection data for the plurality of times of scan and the predetermined liquid droplet is ejected based on the ejection data generated by employing the masks, to form a layer,

wherein said step of ejecting a predetermined liquid droplet varies a minimum processing unit of the mask to vary the degree of gloss.

22. (withdrawn) A print producing method which uses a liquid head provided with a plurality of ejection openings and ejecting a predetermined liquid to employ the liquid head for scanning a printing medium in a direction different to a direction in which the plurality of ejection openings are arranged, and to eject the predetermined liquid from the liquid head to the printing medium to form a layer, so that a print is produced with varying a degree of gloss,

wherein respective ejection amounts of ejection openings are varied in accordance with positions in the arranging direction of the plurality of ejection openings.

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

23. **(withdrawn)** A method as claimed in claim 22, wherein a varying rate of the ejection amount in accordance with the position is differentiated in accordance with a range of ejection openings employed in one scanning.

24. **(withdrawn)** A method as claimed in claim 22, wherein areas of the printing medium to which the predetermined liquid is centered are determined and the ejection amount of the plurality of ejection openings corresponding to the area is varied for each area.

25. **(withdrawn)** A method as claimed in claim 22, wherein the respective ejection amounts of ejection openings are varied so that the closer to the end position of the arrangement the ejection opening is, the greater the ejection amount is.

26. **(withdrawn)** A method as claimed in claim 25, wherein the respective ejection amounts of ejection openings are varied so that the closer to the center position of the arrangement the ejection opening is, the smaller the ejection amount is.

27. **(withdrawn)** A print producing apparatus for producing a print with varying a degree of gloss of a printing medium, said apparatus comprising:

layer forming means for applying a liquid to form a layer,

wherein the formation of the layer causes the degree of gloss to be varied among a plurality of levels.

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

28. **(withdrawn)** A print producing apparatus for producing a print with varying a degree of gloss of a printing medium, said apparatus comprising:

layer forming means for applying a liquid to form a layer,

wherein said layer forming means is means for forming the layer by applying a predetermined liquid droplet, and said means controls a level of integrating a plurality of the predetermined liquid droplets, which are applied for forming the layer, to vary the degree of gloss.

29. **(withdrawn)** A print producing apparatus for producing a print with varying a degree of gloss of a printing medium, said apparatus comprising:

layer forming means for ejecting a predetermined liquid droplet to the printing medium from an ink jet head while the ink jet head is employed to scan the printing medium to form a layer on the printing medium,

wherein the number of times of scan required for forming the layer is varied to vary the degree of gloss.

30. **(withdrawn)** A print producing apparatus which uses a liquid head provided with a plurality of ejection openings and ejecting a predetermined liquid to employ the liquid head for scanning a printing medium in a direction different to a direction in which the plurality of ejection openings are arranged, and to eject the predetermined liquid from the liquid head to the printing medium to form a layer, so that a print is produced with varying a degree of gloss,

wherein respective ejection amounts of ejection openings are varied in accordance with positions in the arranging direction of the plurality of ejection openings.

Appl. No. 10/676,427
Reply to Office Action dated December 16, 2005

Docket No. 1232-5168

31. (new) An apparatus for producing a print product by applying ink on a printing medium, comprising:

liquid applying means for applying ,to the printing medium, a liquid for varying the degree of gloss on the printing medium;

scanning means for relatively scanning the liquid applying means to the printing medium;

controlling means for controlling said liquid applying means so that ,in the scan, the liquid is applied to an area on the printing medium to which the ink has been applied; and

changing means for changing liquid applying conditions for the area,

wherein said changing means changes at least one of the liquid applying conditions including an applying time difference between the liquid applying to adjacent locations in the area of the printing medium, a number of times of scan for applying the liquid, and a mask pattern used for applying the liquid so as to realize different degree of gloss.